

HYMENOPTERA, SUPERFAMILIES APOIDEA AND CHALCIDOIDEA, OF THE YALE DOMINICAN EXPEDITION OF 1913.

By J. C. CRAWFORD,

Associate Curator, Division of Insects, United States National Museum.

The material here listed came, unless otherwise stated, from the island of Dominica and was collected during June and July, 1913, by Mr. H. W. Foote. As almost nothing has been recorded in the Hymenoptera from this island, the collection is of especial interest.

Superfamily APOIDEA.

MELIPONA VARIEGATIPES Griboda.

Eight workers of this form were taken.

CENTRIS LANIPES Fabricius.

One female from Guadaloupe.

CENTRIS VERSICOLOR Fabricius.

Six females and three males.

ANTHOPHORA FOOTEI, new species.

Male.—Length about 10 mm. Similar to *A. krugii* but the clypeus above with two large dark spots, the pubescence of the face yellowish with black intermingled; the dorsum and upper half of pleuræ with fulvous pubescence, with a few black hairs intermingled; femora with white hairs; tibiæ exteriorly with fulvous pubescence; sixth abdominal segment with a broad ivory colored band; pubescence on last segment fulvous.

Female.—Length about 11 mm. Similar to the male but the face entirely dark, tibial scopa outwardly fulvous, inward black.

Habitat.—Island of Dominica.

Described from two males and one female.

Type.—Cat. No. 16731, U.S.N.M.

This species is named in honor of Mr. H. W. Foote.

EXOMALOPSIS SIMILIS Cresson.

Eleven females.

MELISSODES INSULARIS, new species.

Male.—Length about 9 mm. Black with the legs reddish-honey color; clypeus and labrum yellow, mandibles dark, with a medial reddish-testaceous band; antennæ as long as body, beneath reddish, except basal 3 joints; labrum covered with light yellowish hairs, clypeus and most of rest of face below antennæ with brown hair; above antennæ the hair ochraceous, on vertex brown; hair of thorax ochraceous, with a distinct reddish tinge at each side of anterior margin of mesoscutum; disk of mesoscutum and scutellum with black hair; wings slightly fumated; pubescence of legs reddish-ochraceous, on posterior tibiæ above, brown; abdomen brown, the apical margins of the segments reddish; first segment basally with ochraceous pubescence; second segment with a narrow basal band of appressed very light ochraceous pubescence; third segment with a similar broad discal band; fourth and fifth segments with similar narrower bands, just basad of the depressed apical margins of segments; rest of pubescence on dorsum of abdomen black; apical segment subtruncate and with a lateral tooth on each side near base.

Habitat.—Island of Dominica, West Indies.

Described from one specimen.

Type.—Cat. No. 16732, U.S.N.M.

M. cajennensis which has similarly colored legs has the mandibles yellow at base and no dark hairs on the dorsum of the mesonotum. The specimens recorded from the West Indies, as this species, are probably *M. rufodentata* Smith, which, however, may be a synonym of *cajennensis*.

MELISSA IMPERIALIS Ashmead.

Three females and eight males.

XYLOCOPA BRASILIANORUM Linnæus.

One female.

MEGACHILE FLAVITARSATA Smith.

One male.

MEGACHILE MULTIDENS Fox.

One female and one male. The latter smaller than the typical specimens and with the median pair of teeth on the apex of the abdomen longer and narrower. This species appears to be close to *M. concinna* Smith, which I have not seen. It differs in the female from the description of that species only in being smaller and having the ventral scopa on the penultimate segment black only at extreme sides.

MEGACHILE ELONGATA Smith.

Two males which differ slightly in the last segment but otherwise agree perfectly. They are, in this one character, slightly different from another male in the collection of the United States National

Museum from Santo Domingo. As all three agree except for the slight difference of this one character, it would appear that in this species the amount of indentation of the last dorsal segment and the exact formation of the two teeth formed thereby is not constant. All three specimens are smaller than the measurements given by Smith, being only 10–12 mm.

MEGACHILE BINOTATA Guerin.

Two females.

COELIOXYS ABDOMINALIS Guerin.

Two females and one male.

HALICTUS, species.

One male which could not be specifically named.

HALICTUS PUNCTIFRONS, new species.

Female.—Length about 6 mm. Head and thorax dark dull green, with sparse brown hairs; abdomen brown; facial quadrangle longer than broad, the clypeus produced, apically brown; supra-clypeal area elongate running up to insertion of antennæ; head and thorax with exceedingly fine crowded punctures; dorsum of propodeum covered with shallow irregular thimble-like sculpture, at extreme sides with three or four weak rugulæ; tegulæ dark brown; stigma and veins very dark brown; legs brown, tarsi more reddish, hind inner spurs with about four long teeth; scopa on femora light yellow, on tibiæ darker, on outer faces of tibiæ more brown; abdomen strongly transversely lineolate.

Habitat.—Island of Dominica.

Type.—Cat. No. 16733, U.S.N.M.

This species resembles *H. auratus* Ashmead, which has a similarly shaped head, but that species has the head and thorax green and the dorsum of propodeum rugulose all over, etc.

AUGOCHLORA IGNIFERA, new species.

Female.—Length 7–8 mm. Brilliant fiery red; clypeus at sides and the anterior margin narrowly greenish; mandibles at base with a green spot; clypeus elevated and produced; clypeus and supra-clypeal area smooth, with large, sparse punctures; sides of face closely punctured, above insertion of antennæ the punctures becoming finer and crowded; antennæ beneath obscurely reddish; rear of head with a carina separating post-vertex from posterior plane of head; meso-scutum with punctures about as on vertex but anteriorly toward sides the sculpture somewhat more rugose; scutellum with the puncture finer and not crowded, metanotum with only a few setigerous punctures toward apex; propodeum with the dorsal face separated from the sides and posterior face by being angulated; the dorsal

face with sparse somewhat diverging rugulæ; tegulæ brown; wings somewhat infuscated; second submarginal cell slightly more than half as long as third, as long as the first transverse cubital vein; third submarginal narrowed about one-half toward marginal; marginal cell minutely truncate at apex; legs dark brown, the coxæ concolorous with the body; tarsi apically more reddish; scopa on femora very light ochraceous, on tibiæ and tarsi more yellow, hind inner spur minutely denticulate; abdomen almost impunctate except for insertions of hair, which are coarser on the first segment; apical margins of segments very narrowly black; base of first segment with long yellow pubescence, rest of abdomen with very thin dark pubescence; venter dark brown; tooth on first ventral segment very poorly developed and more like a strongly elevated carina.

Male.—Length about 7 mm. Similar to the female but with more coppery and greenish reflections; punctures of the mesoscutum and scutellum not so close as in female and somewhat coarser; metanotum covered with fine punctures; tegulæ and legs aeneous, the legs basad becoming more greenish; venter green basally and coppery apically, with broad apical margins of segments brown, the first segment medially carinate on apical half.

Habitat.—Island of Dominica.

Described from 13 females and 4 males.

Type.—Cat. No. 16734, U.S.N.M.

In Vachal's table¹ runs to couplet 35 but does not agree with either alternate.

Superfamily CHALCIDOIDEA.

SPILOCHALCIS FEMORATUS Fabricius.

One female and five males.

¹ Misc. Ent., vol. 19, 1911, pp. 14 and following.